

AMENDMENTS TO THE CLAIMS:

1.(currently amended): An error rate control apparatus for use in a communications system which maps a data signal and a control signal to a physical channel, comprising:

- a control signal error rate computation unit computing an error rate of the control signal; and
- a power variable unit transmitting the control signal after changing transmission power of the control signal based on a value of the error rate.

2.(previously presented): The apparatus according to claim 1, wherein said communications system is a W-CDMA system.

3.(previously presented): The apparatus according to claim 1, wherein said control signal is a TFCI, a PILOT, or a TPC in a signal format of a W-CDMA system.

4.(previously presented): The apparatus according to claim 1, wherein said control signal error rate computation unit computes an error rate of the control signal based on error detection of the data signal.

5.(previously presented): The apparatus according to claim 4, wherein: said data signal is a transport channel signal of a W-CDMA system; and

when a plurality of transport channels are included in a physical frame, the error rate of the control signal is computed based on a number of the transport channels in the physical frame.

6.(previously presented): The apparatus according to claim 4, wherein:

said data signal is a transport channel signal of a W-CDMA system; and

when the transport channel is transmitted covering a plurality of physical frames, and when a value of the control signal of each physical frame is inconsistent among the plurality of physical frames, an error rate is computed with the control signal considered to be erroneous.

7.(previously presented): The apparatus according to claim 4, wherein:

said data signal is a transport channel signal of a W-CDMA system; and

when the transport channel comprises a plurality of transport blocks, and the plurality of transport channels are all erroneous, an error rate of the control signal is computed with the control signal considered to be erroneous.

8.(currently amended): An error rate control method for use with a communications system which maps a data signal and a control signal to a physical channel, comprising:

computing an error rate of the control signal; and

transmitting the control signal after changing transmission power of the control signal based on a value of the error rate.

9.(previously presented): The method according to claim 8, wherein said communications system is a W-CDMA system.

10.(previously presented): The method according to claim 8, wherein said control signal is a TFCH, a PILOT, or a TPC in a signal format of a W-CDMA system.

11.(previously presented): The method according to claim 8, wherein said control signal error rate computation unit computes an error rate of the control signal based on error detection of the data signal.

12.(previously presented): The method according to claim 11, wherein:
said data signal is a transport channel signal of a W-CDMA system; and
when a plurality of transport channels are included in a physical frame, the error rate of the control signal is computed based on a number of the transport channels in the physical frame.

13.(previously presented): The method according to claim 11, wherein:
said data signal is a transport channel signal of a W-CDMA system; and
when the transport channel is transmitted covering a plurality of physical frames, and when a value of the control signal of each physical frame is inconsistent among the plurality of physical frames, an error rate is computed with the control signal considered to be erroneous.

14.(previously presented): The method according to claim 11, wherein:

said data signal is a transport channel signal of a W-CDMA system; and
when the transport channel comprises a plurality of transport blocks, and the
plurality of transport channels are all erroneous, an error rate of the control signal is computed
with the control signal considered to be erroneous.

15.(new): A radio communication apparatus transmitting a data signal and a control
signal to another radio communication apparatus, comprising:

a control unit for controlling transmission power of said control signal separately
from transmission power of said data signal based on an error condition of said control signal
received by said other communication apparatus.

16.(new): A radio communication apparatus transmitting a data signal and a control
signal to another radio communication apparatus, comprising:

a control unit for controlling transmission power of said control signal separately
from transmission power of said data signal based on a feedback signal from the other radio
communication apparatus.

17.(new): The radio communication apparatus of claim 16, wherein said data signal
is a transport channel signal of a W-CDMA system, said control signal indicates a format of the
transport channel and said apparatus maps the transport channel and said control signal to a
physical channel.

18.(new): A radio communication apparatus which is capable of transmitting a data signal and a control signal to another radio communication apparatus, wherein transmission power of said control signal is deviated from said transmission power of said data signal by a certain value, comprising:

a control unit for controlling transmission power of said control signal to change said certain value based on an error condition of said control signal received by said other radio communication apparatus.

19.(new): A radio communication apparatus which is capable of transmitting a data signal and a control signal to another radio communication apparatus, wherein transmission power of said control signal is deviated from said transmission power of said data signal by a certain value, comprising;

a control unit for controlling transmission power of said control signal to change said certain value based on a feedback signal from said other radio communication apparatus.

20.(new): A method for controlling transmission power of a control signal for a channel shared by plural users, comprising:

determining transmission power of a channel dedicated to a user;

setting transmission power of a timeslot of said control signal in relation to said transmission power of the channel dedicated to a user that uses the timeslot transmitting signals over said control channel with the set power.

21.(new): A method for controlling a transmission power of a control channel comprising:

- determining transmission power of a downlink dedicated physical channel based on the received TPC command; and
- determining transmission power of a shared control channel transmitted to each mobile station by using a power offset value related to transmission power of the downlink dedicated physical channel, wherein said power offset value is based on a feedback signal from said mobile stations.

22.(new): A control information transmitting method of a mobile communication system, said control information transmitted by a control signal, said control signal mapped with a data signal to a physical channel, said physical channel transmitted by a radio communication apparatus, said method comprising:

- determining a power offset value of the control signal for the physical channel based on a feedback signal from another radio communication apparatus;
- controlling transmission power of said control signal separately from transmission power of said data signal by using the transmitted PO value.

23.(new): A method for controlling transmission power of a control channel in a high speed data packet access service of a mobile communications system in which a user equipment receives a data signal through a high speed downlink shared channel on the basis of control information transmitted through the control channel, the method comprising:

determining a transmission power of the control channel based on a response from the user equipment;

controlling transmission power of said control channel separately from transmission power of said data signal based on the determining step.

24.(new): The method according to claim 23, wherein said mobile communications system is a W-CDMA system and the control channel is a TFCI, a PILOT, or a TPC in a signal format of the W-CDMA system.

25.(new): The method according to claim 23, wherein the data signal is a transport channel signal of a W-CDMA system, said control channel indicates a format of the transport channel and the method maps one or more transport channels and the control channel to a physical channel.